National Institute of Environmental Health Sciences

Canine leishmaniosis in the United Kingdom: A zoonotic disease waiting for a vector?

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Abstract:

Leishmaniosis is an important sand fly transmitted protozoan disease of dogs and humans. In northern Europe, infection is mainly restricted to dogs that have travelled to and/or from endemic areas of the Mediterranean region during periods when there is high sand fly exposure, mostly between March and November. Infected dogs in these areas in northern latitudes are a potential reservoir should incursion of a competent vector occur. However, information on the scale of the potential reservoir in the UK is lacking. Confirmed cases of canine leishmaniosis entering the United Kingdom between 2005 and 2007 were identified using diagnostic samples submitted to the Department of Clinical Veterinary Science, University of Bristol and from collaborating laboratories (nEuro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin)257). All study dogs had clinico-pathological signs compatible with leishmaniosis, as typically reported in endemic countries and were leishmania positive in real time or conventional PCR tests, IFA serology and/or tissue microscopic examination for amastigote identification. Information obtained from each case included travel history, habitat, clinico-pathological findings and geographical location once located in the UK. The majority of dogs with complete travel history (nEuro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin)183) had spent at least 6 months in Spain (105/183), 28/183 were rescued from re-homing centres in the country of origin and 26/183 entered the UK with confirmed leishmaniosis. Once located in the UK, the majority of positive cases were resident in south and central England. The spectrum of clinico-pathological signs for this group of dogs is similar to that reported in endemic countries. These data confirm that a potentially significant reservoir of infected dogs is resident in areas where future climatic conditions may support introduction of competent vectors.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : United Kingdom

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Fly-borne Disease

Fly-borne Disease: Leishmaniasis

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content